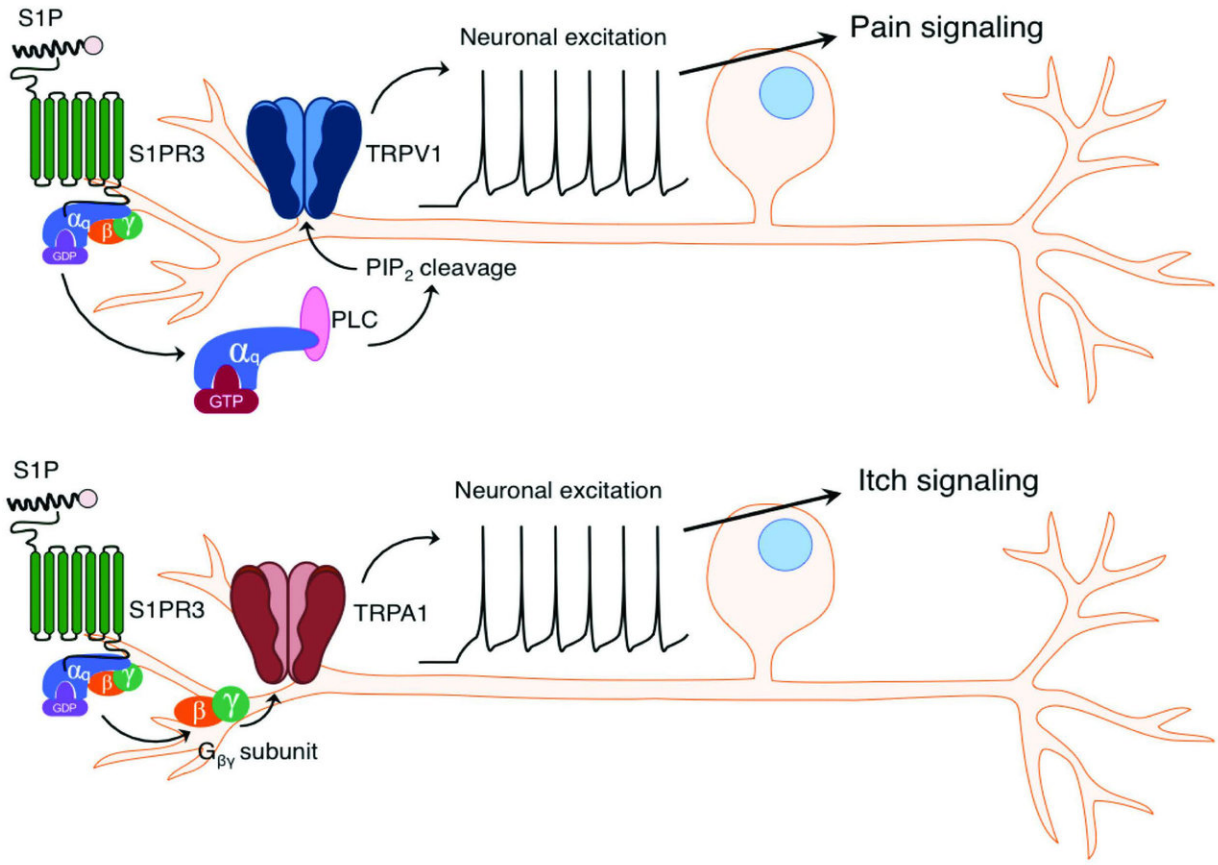
Molecular switch triggers itch

August 6 2018



Credit: Hill et al., *JNeurosci* (2018)

A new study of male mice published in *JNeurosci* uncovers two distinct pathways through which a single molecule can cause both itchy and painful skin. The research could inform the development of drugs for a variety of skin diseases.

Diana Bautista and colleagues show that sphingosine 1-phosphate (S1P)—a molecule implicated in skin conditions such as psoriasis as well as other inflammatory diseases including asthma and multiple sclerosis—triggers itch in addition to its known role in pain.

Their work identifies a receptor of this molecule, S1PR3, expressed in sensory neurons is responsible for these sensations.

The findings suggest that blocking this receptor may represent a promising therapeutic approach for managing both pain and itch.

More information: Rose Z. Hill et al, S1PR3 mediates itch and pain via distinct TRP channel-dependent pathways, *The Journal of Neuroscience* (2018). DOI: 10.1523/JNEUROSCI.1266-18.2018

Provided by Society for Neuroscience